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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/592,230	06/12/2000	Gregory Ralph Osborn	GEO4574	5504

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EXAMINER

D AGOSTA, STEPHEN M

ART UNIT.	PAPER NUMBER
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2683

DATE MAILED: 10/03/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/592,230

Applicant(s)

OSBORN, GREGORY RALPH

Examiner

Stephen M. D'Agosta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 9-5-03 have been fully considered but they are not persuasive:

1. The applicant argues that channel loading has nothing to do with physical, functional or other constraints or hardware resources comprising communications channels or the identification of same. The examiner disagrees – Minnick teaches a multiple channel system that routes messages between users via AND provides handoffs as required. The ability to perform such operations inherently requires tracking/identification of currently used physical links and links to be used for future handoffs. TDMA is used (abstract) which identifies physical channels/links as well.

2. The applicant argues that the art does not teach “generating an abstract resource specification.....to enable maximum preservation of most functional and least available hardware resources during hardware resource allocation”. The examiner disagrees – the “abstract” disclosed is merely a database that is used to provide efficient communications. The passages cited in Minnick read on the claim since Minnick monitors links/channels and provide switching as required (ie. failure, handoff, congestions, etc.). Handoff reads on “most functional” since a new link must be established (eg. select best link/most functional) and Failure/Congestion reads on “least available” since they associate links that have trouble supporting communications.

3. For claim 6 argument, see #2 above.

4. For claim 11 argument, see #1 and #2 above.

5. The examiner also notes that prior art, McVey US 5,479,477, teaches a control module (eg. abstract resource specification) with a group of supported resource features and associating each resource to a group of employed resource features used to establish a minimum and extended set of resource feature requirements for a resource that is to be added to support the minimum set of resource feature requirements (Abstract). This reads on the applicant's invention as well.

6. The examiner has pointed out objectable material, yet the applicant has chosen not to amend their claims accordingly for a more favorable outcome. The last office action is shown below for informational purposes.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Minnick et al. US 6,370,381 and further in view of McVey et al. US 5,479,477 (hereafter Minnick and McVey).

As per claims **1, 6 and 11**, Minnick teaches a method of characterizing hardware resource dependencies in a multi-channel communication system (abstract and figure 1), comprising;

Identifying constraints among hardware resources based on both stored and queried hardware resource characteristics (abstract teaches "channel loading" which is a constraint on the hardware and resulting interdependencies occur since the communications infrastructure components are inter-related, ie. there are only a finite number of antennas supporting a finite number of RF transceivers/amplifiers supporting a finite number of channels, supporting one base station supported by one BSC all connected to one MSC)

Generating an abstract resource specification based on the identifying of hardware resource constraints and interdependencies for use during hardware resource allocation to enable maximum preservation of most functional and least available hardware resources during hardware resource allocation (C2, L45-50, C3, L3-5, C5, L60 to C7, L6 and C24, L22-65 – teaches site balancing of hardware, information stored in a database **but is silent on** interdependency).

McVey teaches a communication system that uses a control module(s) for resources and a database of association/interdependency tables (C3, L7-14 and C5, L1-67).

With further respect to claim 6, Minnick teaches computers/databases that are used to track hardware resource interdependencies (figure 1, BTS/BSC/MCC), and an MCC which reads on the applicant's 'processor for interpreting an abstract resource specification' but is silent on using labels.

McVey uses a database of association tables that uses resource ID's (or alias's) which reads on labels (C5, L43-51).

It would have been obvious to one skilled in the art at the time of the invention to modify Minnick, such that interdependency and resource ID's/labels are used, to provide means for the system to understand which components are being identified and their interdependency to other units/systems.

As per **claims 2, 7 and 13**, Minnick teaches claim 1 wherein identifying constraints and interdependencies among hardware resources comprises identifying system communication domains that contain system hardware resources (abstract teaches cell sites which inherently require a BTS connected to BSC/MSB and a handoff will occur if the BTS is loaded per figure 6, #650 and/or see figure 11b, #1220 and #1295. Each cell site is uniquely identified).

As per **claims 3, 8 and 14**, Minnick teaches claim 1 wherein the identifying constraints and interdependencies among hardware resources comprises identifying managed hardware resource from among the system hardware (figure 1, a BTS is controlled by a BSC/MSB which manages how the BTS is allocated).

As per **claims 4, 9 and 15**, Minnick teaches claim 1 wherein identifying constraints and interdependencies comprises identifying group boundaries among system hardware resources (figure 1 - a cellular system inherently includes boundaries, eg. cells, which are allocated to different BTS's and controlled by various BSC's, hence the system must be able to distinguish among hardware/system boundaries for optimal operation).

As per **claim 12**, Minnick is silent on a method performing a dynamic hardware resource investigation comprising interpreting an abstract hardware resource description including virtual hardware resource objects.

McVey teaches control modules used for various purposes (ie. are virtual) and a database containing association tables to control the modules (C5, L1-9 and C5, L43-67) which reads on the applicant's claim.

It would have been obvious to one skilled in the art at the time of the invention to modify Minnick, such that virtual hardware resource objects are used, to provide means for hardware objects to be assigned/labeled virtually as needed.

Allowable Subject Matter

Claims 5, 10 and 16 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Minnick does not disclose identification of relationships, if any, between system hardware resources and external hardware to identify redundant resources within respective ones of the hardware resource groups and to characterize dedicated coupling between individual ones of the system hardware resources.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 703-306-5426. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 703-308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

SMD
September 25, 2003


WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600